



SOT-89 Plastic-Encapsulate Transistors

2SD1766

TRANSISTOR (NPN)

FEATURES

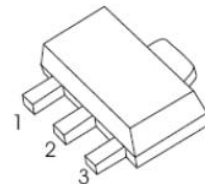
- LOW $V_{CE(sat)}$. $V_{CE(sat)}=0.16V(Typ.) (I_C/I_B=2A/0.2A)$
- **Pb-Free package is available**
RoHS product for packing code suffix "G"
Halogen free product for packing code suffix "H"
- **Moisture Sensitivity Level 1**

MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	32	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	2	A
P_C	Collector dissipation	500	mW
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-55-150	$^{\circ}C$

SOT-89

1. BASE
2. COLLECTOR
3. EMITTER



ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified)

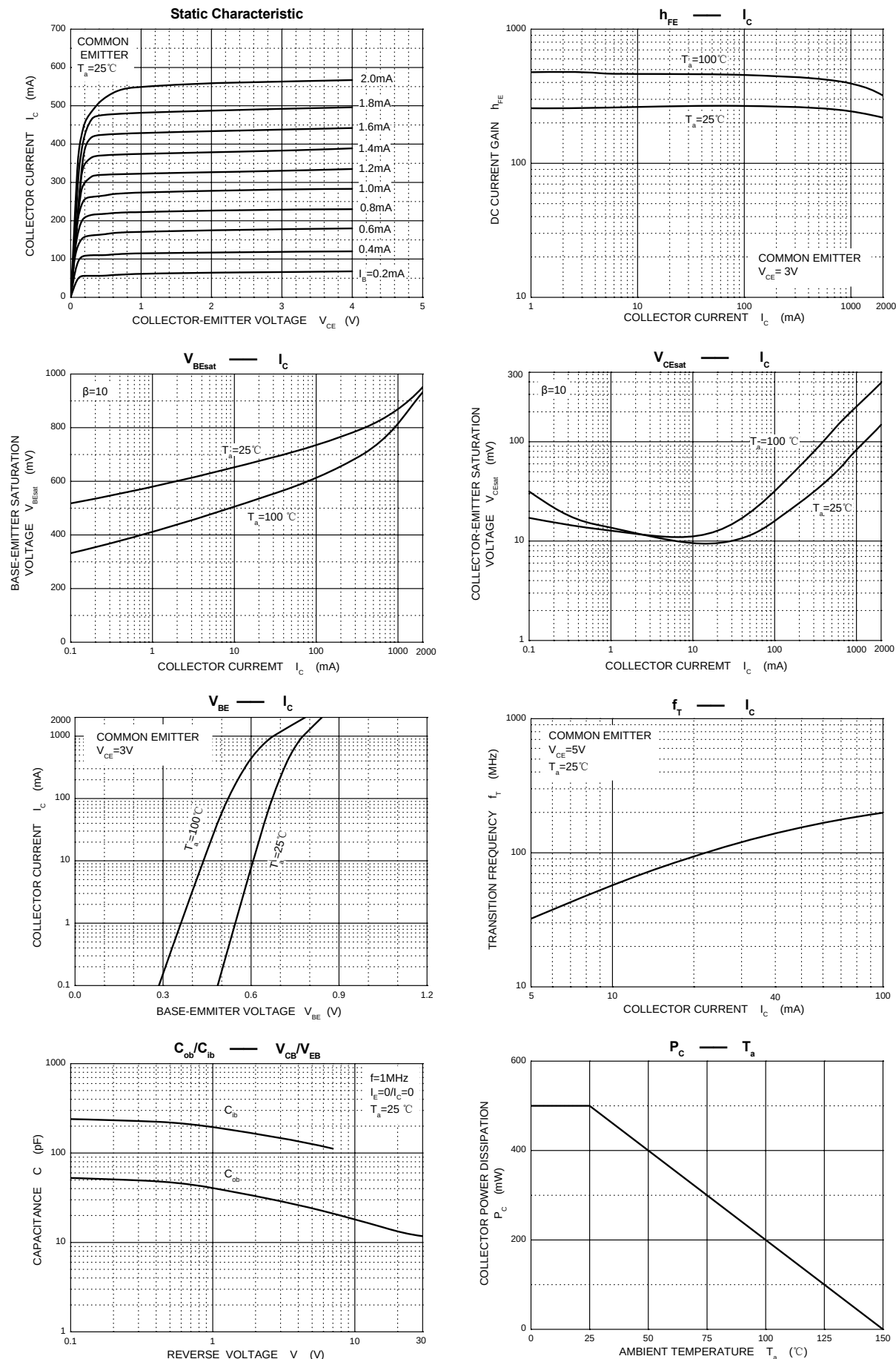
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=20V, I_E=0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=3V, I_C=500mA$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=0.2A$			0.8	V
Transition frequency	f_T	$V_{CE}=5V, I_C=50mA, f=100MHz$		100		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		30		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	DBP	DBQ	DBR



Typical Characteristics

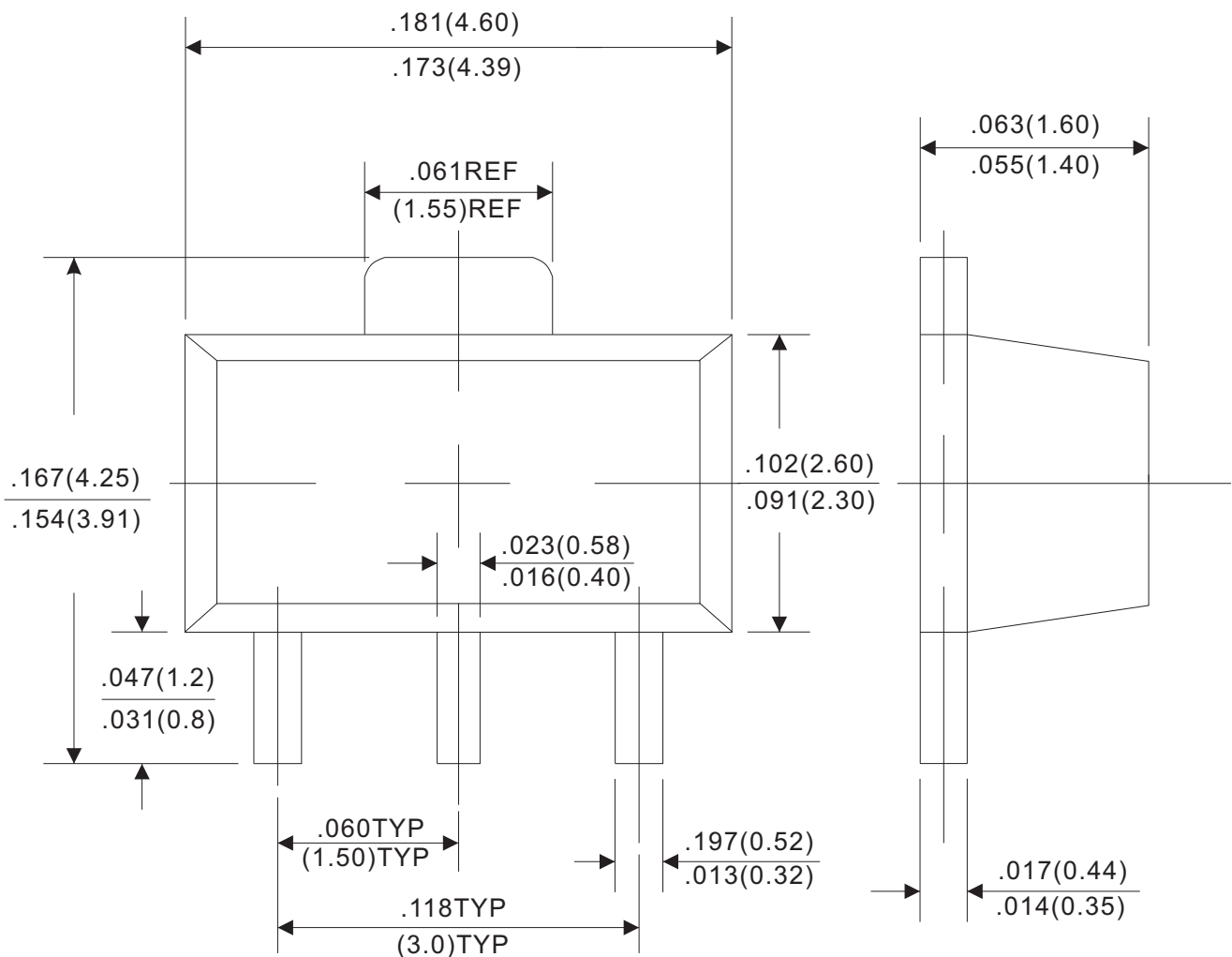




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Outline Drawing

SOT-89



Dimensions in inches and (millimeters)

Rev.C



Ordering Information:

Device PN	Packing
2SD1766 x ⁽³⁾ -SOT89 ⁽¹⁾ G ⁽²⁾ -WS	Tape& Reel: 1 Kpcs/Reel

Note: (1) CASE:SOT-89

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

(3) CLASSIFICATION OF hFE RANK

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